

论著

## 绝经后妇女骨质疏松患者血清IGF-1、IGFBP-3与骨密度及骨代谢指标的关系

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**摘要** 目的: 探讨胰岛素样生长因子-1 (IGF-1) 和胰岛素样生长因子结合蛋白-3 (IGFBP-3) 与绝经后妇女骨密度及骨代谢指标之间的关系。方法: 通过检测90例绝经后妇女骨质疏松患者及70例绝经后骨量正常的健康对照组血清IGF-1、IGFBP-3、骨钙素 (BGP)、I型胶原异枸C端肽 ( $\beta$ -CTX)、雌激素 ( $E_2$ )、降钙素 (CT)、甲状旁腺激素 (PTH)、钙 (Ca)、磷 (P) 等指标, 然后同用双能X线骨密度仪检测的两组研究对象的腰椎 (L2-L4) 侧位、左股骨颈骨密度进行比较。结果: 绝经后骨质疏松组妇女腰椎、股骨颈骨密度显著低于对照组 (均 $P < 0.01$ ); 血清IGF-1、IGFBP-3、 $E_2$ 、CT、BGP水平均低于对照组 (均 $P < 0.01$ ); 血清 $\beta$ -CTX、PTH均高于对照组 (均 $P < 0.01$ ), 血清Ca、P两组之间无差异 (均 $P > 0.05$ )。骨质疏松组和对照组腰椎侧位、左股骨颈BMD均与IGF-1、IGFBP-3、 $E_2$ 、BGP、CT水平呈正相关, 与 $\beta$ -CTX、PTH水平呈负相关, 而与血钙、血磷无明显关系。结论: IGF-1、IGFBP-3、 $E_2$ 、BGP、CT、 $\beta$ -CTX、PTH血清水平与腰椎、左股骨具有明显的相关性, 通过检测上述指标可考虑作为筛查绝经后妇女是否容易患有骨质疏松症的一项有价值的生化参考指标。

**关键词** [绝经后骨质疏松](#); [胰岛素生长因子](#); [骨密度](#)

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## The relationship between serum IGF-1, IGFBP-3 levels, bone mineral density and bone metabolic markers in postmenopausal patients with osteoporosis

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### Abstract

<FONT face=Verdana>AIM: To study the relationship between serum insulin-like growth factor-1 (IGF-1), insulin-like growth factor binding protein-3 (IGFBP-3) levels, bone mineral density (BMD) and bone metabolic markers in postmenopausal women. METHODS: Serum IGF-1, IGFBP-3, osteocalcin (BGP), isomeric C-telopeptide of type I collagen ( $\beta$ -CTX), estradiol ( $E_2$ ), calcitonin (CT), parathormone (PTH), calcium (Ca), and phosphorus (P) were measured in 90 postmenopausal osteoporosis patients and 70 healthy postmenopausal women. BMD of lumbar vertebra and left femoral neck were determined by dual energy X-ray absorptiometry. RESULTS: BMD of lumbar vertebra and left femoral neck decreased significantly ( $P < 0.01$ ), serum IGF-1, IGFBP-3,  $E_2$ , CT and BGP decreased significantly ( $P < 0.01$ ), serum  $\beta$ -CTX and PTH increased significantly in postmenopausal osteoporosis group ( $P < 0.01$ ). There were no significantly differences in serum Ca, P between two groups ( $P > 0.05$ ). BMD of lumbar vertebra and left femoral neck were positively correlated with serum IGF-1, IGFBP-3,  $E_2$ , CT and BGP, but negatively correlated with  $\beta$  CTX and PTH. There were no correlation with serum Ca, P and BMD. CONCLUSION: Serum IGF-1, IGFBP-3,  $E_2$ , CT, BGP,  $\beta$ -CTX and PTH level were correlated with BMD of lumbar vertebra and left femoral neck. These markers can be one of the valuable evidences for screening osteoporosis in postmenopausal women. </FONT>

**Key words** [Postmenopausal osteoporosis](#) [Insulin-like growth factor-1](#) [Bone density](#)

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